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A STUDY OF THE READING VOCABULARY OF CHILDREN[1]

MYRTLE SHOLTY

The problem in this experiment was a study of the reading vocabulary of children who had attended school one and one-half school years, or thirteen and one-half months. When taking up the study of this problem I had five things in mind. I wanted to find out, first, the total number of words in the reading vocabulary of the children; second, the number of words known in context; third, the number of words known out of context when seen on the instant; fourth, the number of words the children could build up when allowed to see the words as long as they wished; and fifth, the number of words they could neither read correctly when seen on the instant through the tachistoscope nor build up when given all the time they wished.

To find out the reading vocabulary of these children, it was necessary to examine all of the readers the children had read since they entered school, and to arrange the vocabularies of these readers in alphabetical order. To find the number of words each child knew in context, I asked each child to read through all of the books he had read and I noted the words he did not know. In order to find the words the children knew out of context when seen on the instant, it was necessary to use the tachistoscope. The words when shown through the tachistoscope were not arranged in alphabetical order. As the words were shown I noted those read correctly on the instant. The words not read correctly on the instant were shown to the children and they were given as much time as they liked to build them up, and I noted the words they could neither build up nor read correctly on the instant.

In choosing the subjects for this experiment I asked the regular reading-teacher of a group of children to select one of the best readers of the class, one of the poorest, and a medium reader. A was the child selected as the best reader, B as the medium reader, and C as the poorest reader. A and C were each eight years old, while B, the medium reader, was eight and one-half years old.

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[1] From the Laboratory of Experimental Education, the University of Chicago.

After the experiment was completed I asked the regular teacher of these children how they stood in their other school work. She reported that A, the best reader, was much below the average in all her other school work, had no initiative, and could never be depended upon to do a piece of work. B, the medium reader, was also below the average but was a good faithful plodder. C, the poor reader, was above the average in all her other school work and always took the initiative.

As the experiment progressed I became anxious to know whether there were more phonetic than sight words in the reading vocabulary of these children, and whether the children read as many phonetic as sight words correctly as wholes. Accordingly I added this question to the original problem.

All the words that could be built up or worked out by sound were called phonetic words. Examples of these words are "finished" and "interesting." All of the words that could not be worked out by phonics were called sight words. Examples of these are "onions" and "cousin."

The reading vocabulary of these children was found to consist of 1,588 words. Of these 834, or 52.5+ per cent, are phonetic words while 754, or 47.4+ per cent, are sight words.

The significant result in Table I is the fact that each child knew a greater percentage of sight words in context than phonetic words. This seems strange when the children had had daily drills in phonics for twelve months. It can probably be accounted for by the facts that the children are interested in the subject-matter and do not want to take the time to work out the words for themselves, and that they have not as yet learned to see the phonetic words as wholes, but depend upon building them up each time.

Table II shows, strangely enough, that B, the child who knew most words in context, knows the fewest words when seen on the instant. It seems still more strange that she read a much smaller percentage of the phonetic than sight words on the instant. C also reads a smaller percentage of phonetic words than sight words on the instant.

TABLE I

THE NUMBER OF WORDS KNOWN IN CONTEXT

	Total No. of Words	No. of Words Known in Context	Percentage of Words Known in Context	Total No. of Phonic Words	Phonetic Words Known in Context	Percentage of Phonetic Words Known in Context	Total No. of Sight Words	Sight Words Known in Context	Percentage of Sight Words Known in Context
A......	1,588	1,392	87.6	834	725	86.9	754	667	88.4
B......	1,588	1,438	90.5	834	704	84.3	754	734	97.3
C......	1,588	1,309	82.4	834	661	79.2	754	648	85.9

TABLE II

THE NUMBER OF WORDS KNOWN WHEN SEEN ON THE INSTANT THROUGH THE TACHISTOSCOPE OUT OF CONTEXT

	Total No. Words	No. Words Known When Seen on the Instant	Percentage of Words Known When Seen on the Instant	Total No. of Phonetic Words	No. of Phonetic Words Known When Seen on the Instant	Percentage of Phonetic Words Known When Seen on the Instant	Total No. Sight Words	No. Sight Words Known When Seen on the Instant	Percentage of Sight Words Known When Seen on the Instant
A......	1,588	977	61.5	834	503	60.3	754	474	62.8
B......	1,588	798	50.2	834	265	31.7	754	532	70.6
C......	1,588	1,009	63.5	834	461	55.2	754	548	72.6

TABLE III

THE NUMBER OF WORDS THE SUBJECTS WERE ABLE TO BUILD UP*

	No. Words Not Known When Seen on the Instant	No. Words Built Up	Percentage of Words Built Up	No. Phonetic Words Not Known When Seen on the Instant	No. Phonetic Words Built Up	Percentage of Phonetic Words Built Up.	No. Sight Words Not Known When Seen on the Instant	No. Sight Words Worked Out	Percentage of Sight Words Worked Out
A......	611	412	67.4	331	232	70.08	280	180	64.28
B......	790	670	84.8	569	525	92.2	221	145	65.61
C......	579	315	56.1	373	254	68.09	206	61	29.61

* These were words they did not know when seen on the instant, but were able to work out when given more time.

Table III shows that B was able to build up a very large percentage of the words, while C was able to build up slightly over half of the words. Although Table II shows that C knew a larger percentage of the words when seen on the instant, Table IV shows that she was the most dependent reader because she could build up fewer words. B knows but half of the words when seen on the instant, but Table III shows that when she is given time she is able to work out more words than either of the other children and therefore, though the slowest, she is the most independent reader. A and C are the fastest readers. This probably seems strange when C was given to us as the poorest reader. It can be accounted for by the fact that she made much greater improvement than either of the other children, so that, when the experiment was finished she was the fastest reader of the group.

TABLE IV

THE NUMBER OF WORDS THE SUBJECTS COULD NOT READ ON THE INSTANT NOR BUILD UP WHEN GIVEN MORE TIME

	No. Words Not Known When Seen on the Instant	No. Words Not Known	Percentage of Words Not Known	No. Phonetic Words Not Known When Seen on the Instant	No. Phonetic Words Not Known	Percentage of Phonetic Words Not Known	No. Sight Words Not Known When Seen on the Instant	No. Sight Words Worked Out	Percentage of Sight Words Worked Out
A......	611	199	32.6	331	99	29.02	280	100	35.72
B......	790	120	15.2	569	44	7.8	221	76	34.39
C......	519	264	43.9	379	119	31.91	206	145	70.39

TABLE V

RESULTS OF THE READINGS THROUGH THE TACHISTOSCOPE

	Total No. Words	No. Words Read Correctly as Wholes on the Instant	Percentage of Words Read Correctly on the Instant	No. Words Read in Parts	Percentage of Words Read in Parts	No. Words Misread	Percentage of Words Misread	No. Words Not Seen	Percentage of Words Not Seen
A......	1,588	977	61.5	2	0.1	182	11.4	427	26.8
B......	1,588	797	50.2	628	39.5	126	7.9	37	2.3
C......	1,588	1,009	63.5	264	16.6	126	7.9	189	11.9

The results of the readings through the tachistoscope show two types of readers. Messmer[1] calls these two types the objective and subjective readers. A is a subjective reader; B and C are of the objective type. While A did not read more words correctly when seen on the instant, she read but two words in parts, and she misread and failed to read more words than the other children. She evidently never had learned to analyze words and always saw the total word form. B and C read a great percentage of the words in parts. They also misread and failed to read much fewer words than A. B and C depended much more upon phonics than A. Table VI shows that they also read a much larger percentage of the phonetic words in parts than of the sight words. While this is true, we see from Tables VII and VIII that they misread fewer phonetic words than sight words. The children who depended most upon phonics read with fewer errors than the one who read by word wholes.

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[1] Huey, *Psychology of Reading*, pp. 92.

TABLE VI

THE NUMBER OF PHONETIC AND SIGHT WORDS READ IN PARTS

	Total No. Words	No. Words Read in Parts	Percentage of Words Read in Parts	Total No. Phonetic Words	No. Phonetic Words Read in Parts	Percentage of Phonetic Words Read in Parts	Total No. Sight Words	No. Sight Words Read in Parts	Percentage of Sight Words Read in Parts
A......	1,588	2	0.1	834	0	0	754	2	0.2
B......	1,588	628	39.5	834	495	59.2	754	133	17.6
C......	1,588	264	16.6	834	220	26.3	754	44	5.8

TABLE VII

THE NUMBER OF PHONETIC AND SIGHT WORDS MISREAD

	Total No. Words	No. Words Misread	Percentage of Words Misread	Total No. Phonetic Words	No. Phonetic Words Misread	Percentage of Phonetic Words Misread	Total No. Sight Words	No. Sight Words Misread	Percentage of Sight Words Misread
A......	1,588	182	11.4	834	92	11.0	754	90	11.9
B......	1,588	126	7.9	834	57	6.8	754	69	9.1
C......	1,588	126	7.9	834	59	7.0	754	67	8.8

No conclusions can be drawn from this limited study, yet it seems to me it would be worth while for primary teachers to study the reading of the pupils to find out whether phonics makes more careful as well as more independent readers or whether it leads children to see words in parts and thereby makes slower readers.

The children were taught by the initiative, word, sentence, and phonetic methods. They knew their letters and would often spell a word when trying to work it out.

TABLE VIII

THE NUMBER OF PHONETIC AND SIGHT WORDS NOT SEEN

	Total No. Words	No. Words Not Seen	Percentage of Words Not Seen	Total No. Phonetic Words	No. Phonetic Words Not Seen	Percentage of Phonetic Words Not Seen	Total No. Sight Words	No. Sight Words Not Seen	Percentage of Sight Words Not Seen
A......	1,588	427	26.8	834	239	28.6	754	188	24.9
B......	1,588	37	2.3	834	17	2.0	754	20	2.6
C......	1,588	189	11.8	834	94	11.2	754	95	12.4

The most significant result in this study is the fact that these children, although taught by the same method, read words differently. I think also that the fact that the two children who depended most upon phonics and read a much greater percentage of the words in parts should be considered. We might conclude that these children had not had enough drill upon recognizing words on the instant; and that it is not enough to teach children how to build up words by means of phonics, but that these words should also have sufficient drill to enable the children to recognize them at sight.